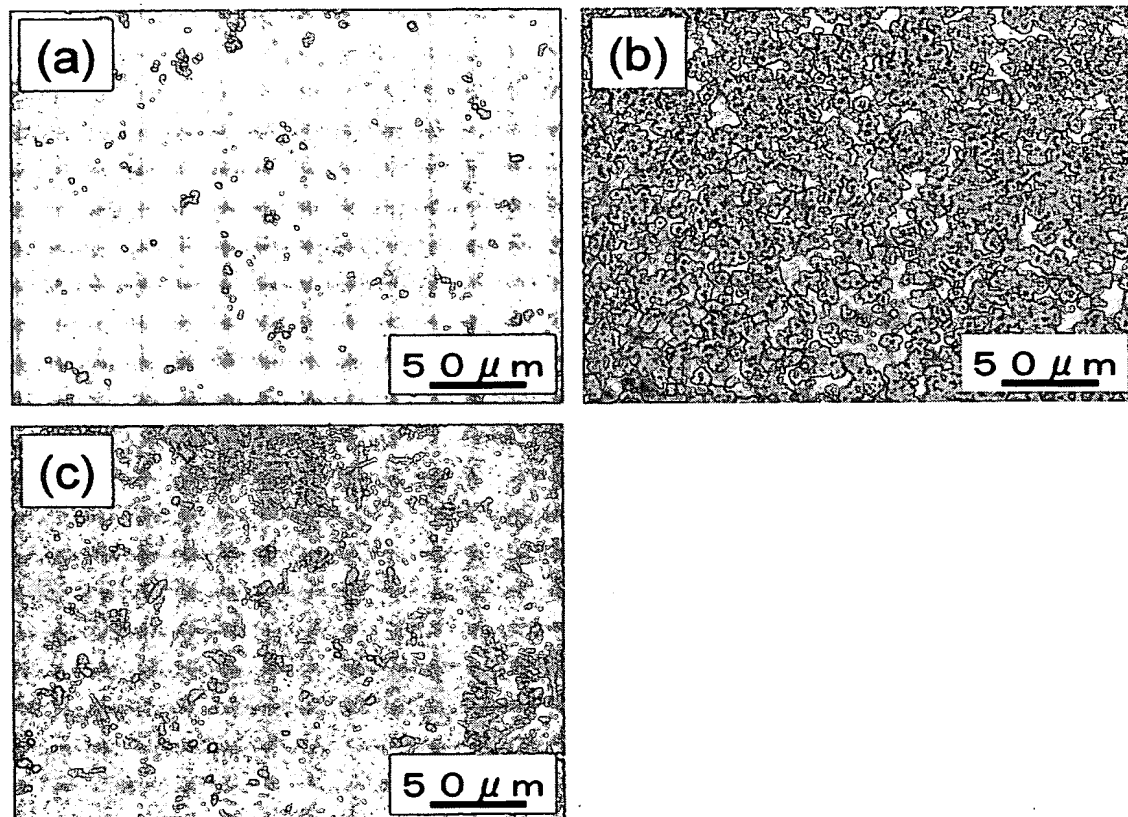


1 / 1 1

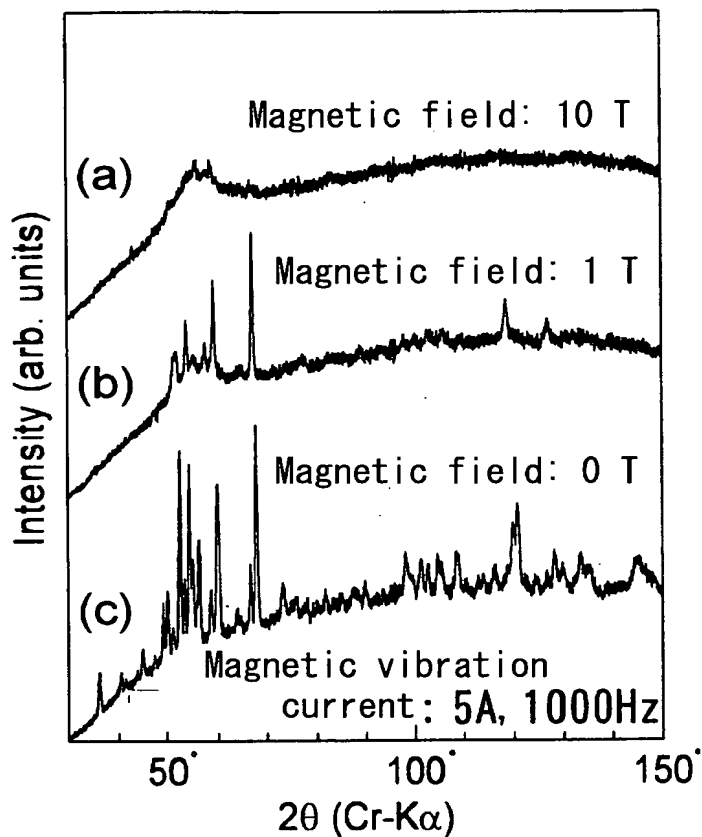
Best Available Copy



Changes in phase occurrence due to electromagnetic vibrating force
(electromagnetic vibration current: 5 A, 1000 Hz, magnetic field:
(a) 10 T, (b) 1 T, (c) 0 T, holding container: Mo foil)

F i g . 1

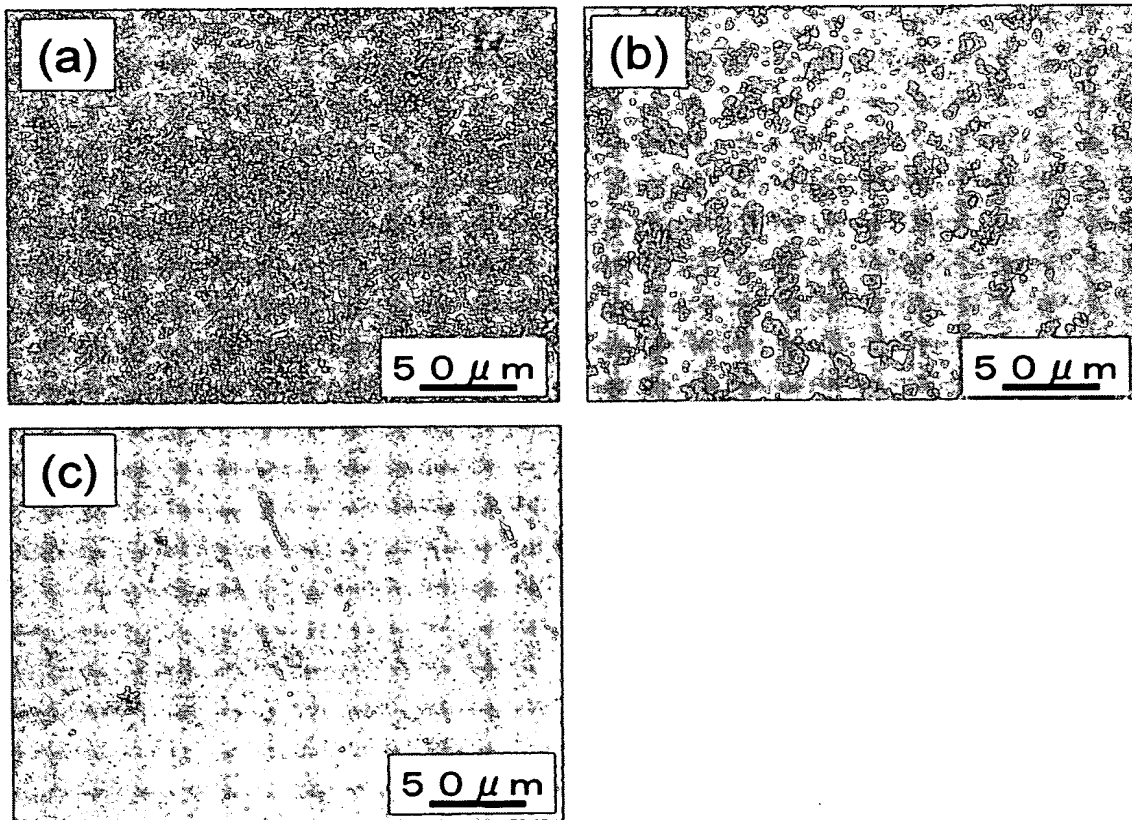
2 / 1 1



Changes in XRD due to electromagnetic vibrating force
(electromagnetic vibration current: 5 A, 1000 Hz, magnetic
field: (a) 10 T, (b) 1 T, (c) 0 T, holding container: Mo foil)

F i g . 2

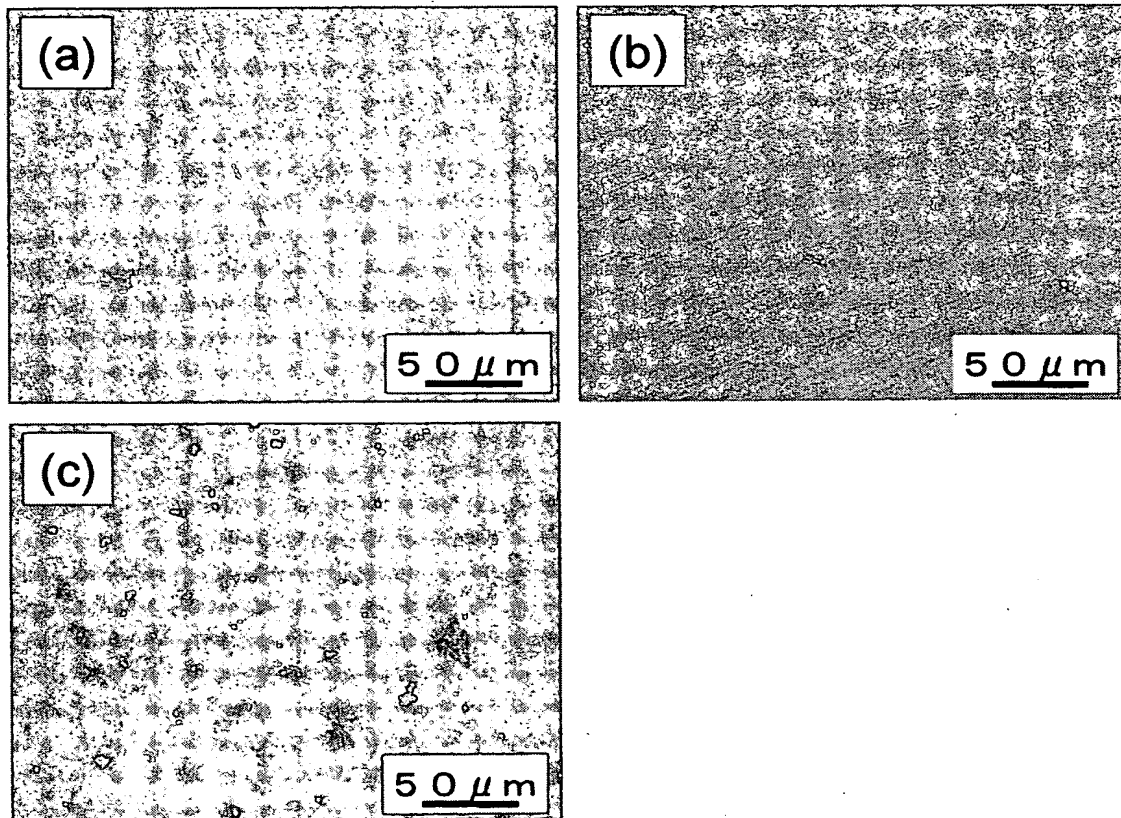
3 / 1 1



Changes in phase occurrence due to electromagnetic vibrating force
(electromagnetic vibration current: 5 A, (a) 100 Hz, (b) 1000 Hz,
(c) 5000 Hz, holding container: alumina tube)

F i g . 3

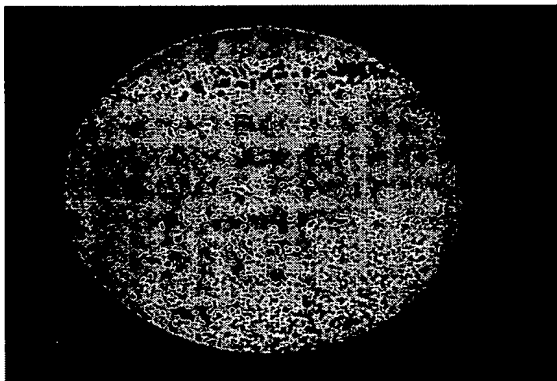
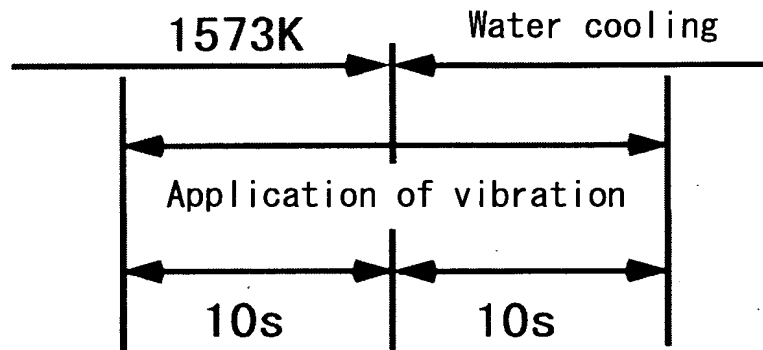
4 / 1 1



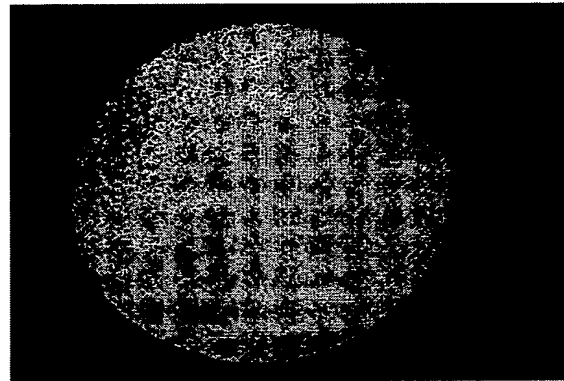
Changes in phase occurrence due to electromagnetic vibrating force
(electromagnetic vibration current: 5 A, 5000 Hz, magnetic field:
(a) 10 T, (b) 5 T, (c) 2 T, holding container: alumina tube)

F i g . 4

5 / 1 1



0 T



10 T

 $(\text{Fe}_{0.6}\text{Co}_{0.4})_{72}\text{Si}_4\text{B}_{20}\text{Nb}_4$ alloy

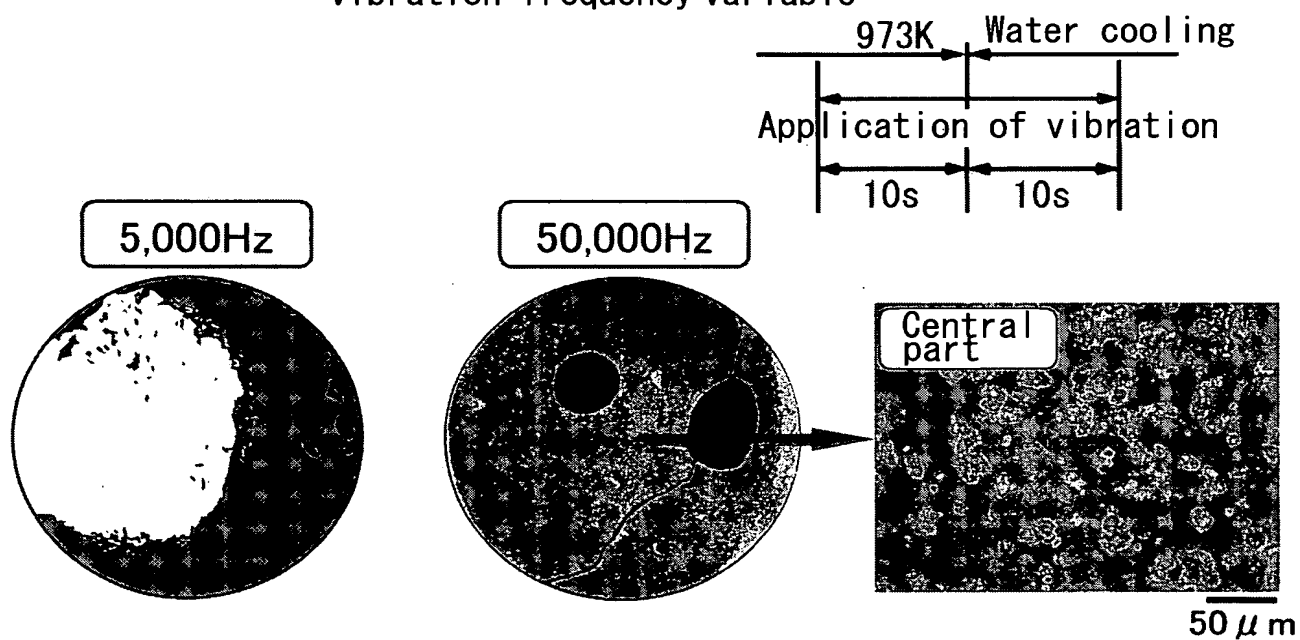
(black spots represent crystal phase)

Effects of electromagnetic vibration in iron alloy
 Vibration application current: 5 A, 5000 Hz

F i g . 5

6 / 1 1

- Vibration application current: 20A, magnetic flux density: 10 T
Vibration application current frequency →
vibration frequency variable



Darkish parts: mainly metal glass phase

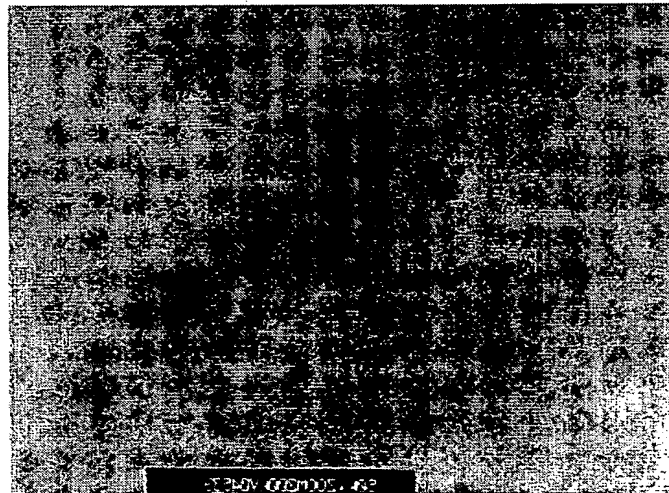
F i g . 6

7 / 1 1

Rapid solidification method



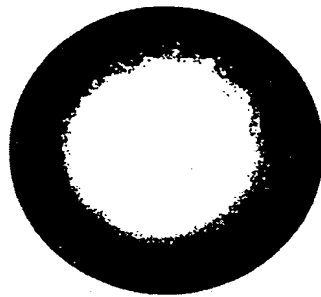
Electromagnetic vibration method



0.2 μ m

F i g . 7

8 / 1 1

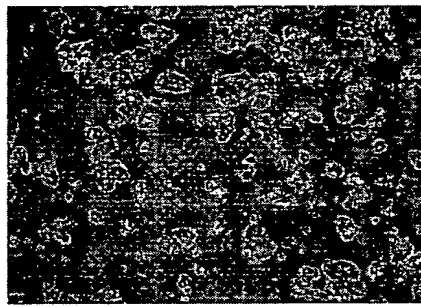


Rapid solidification
method



Electromagnetic vibration
method

(Darkish parts: metal glass, white parts: crystals)



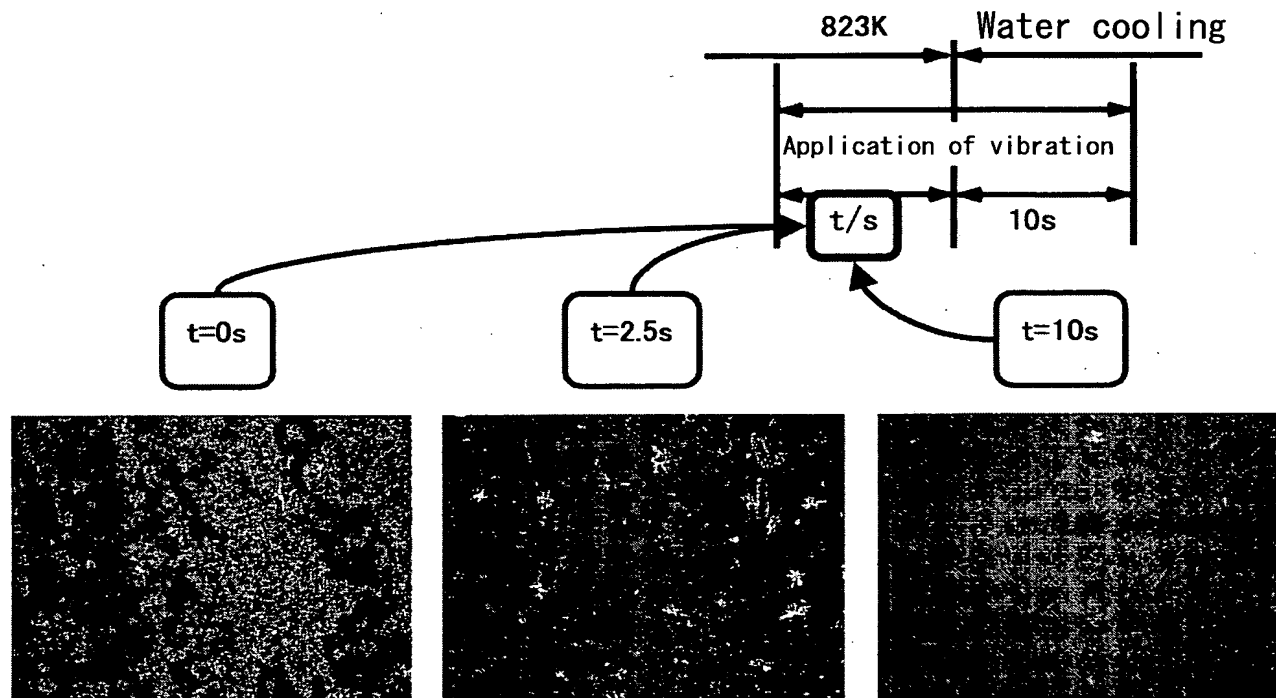
50 μ m

Electromagnetic vibration method
(enlargement)

Texture structures of metal glasses obtained
by rapid solidification and electromagnetic
vibration

F i g . 8

9 / 1 1



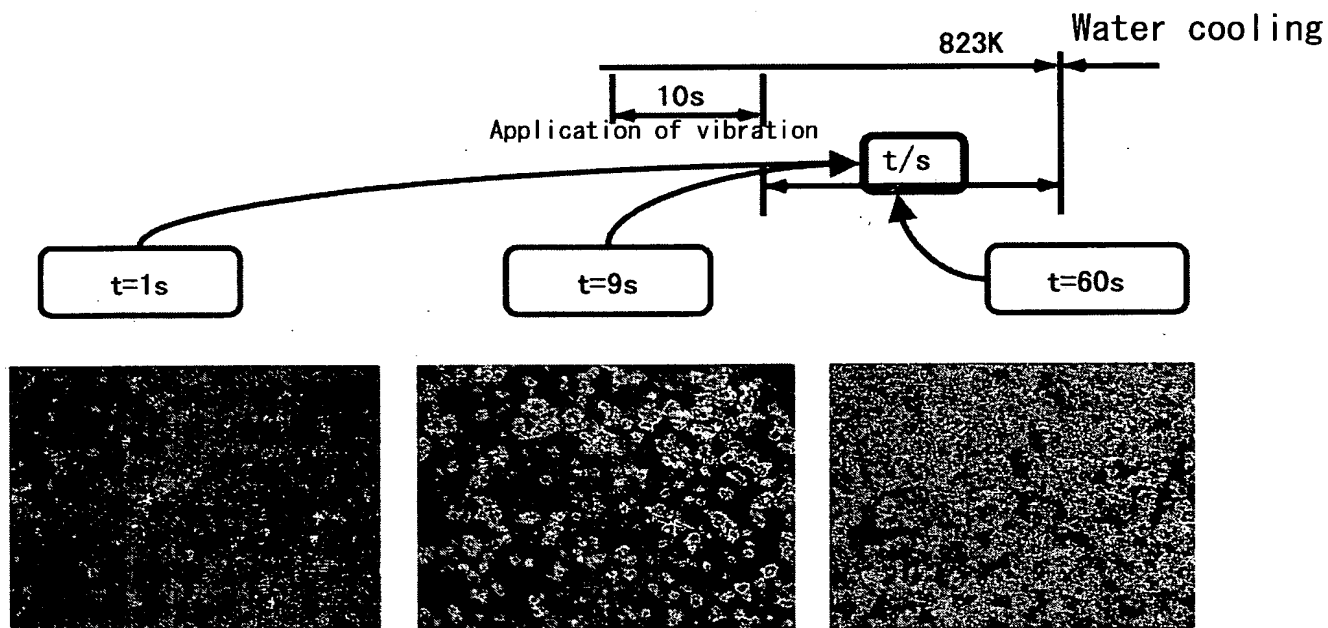
Effects of electromagnetic vibration application time
at the liquid stage before solidification

Vibration application current: 5 A, 5,000 Hz,
magnetic flux density: 10 T

F i g . 9

10 / 11

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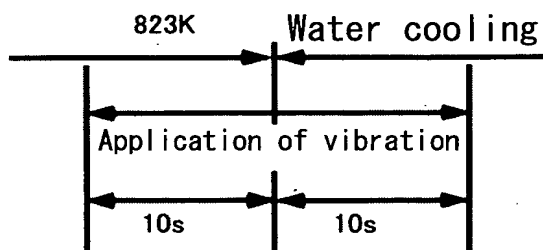


Effects of non-vibrating retention time after application of electromagnetic vibration in the liquid state

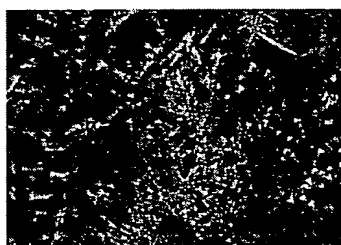
Vibration application current: 5 A, 5,000 Hz, magnetic flux density: 10T

F i g . 10

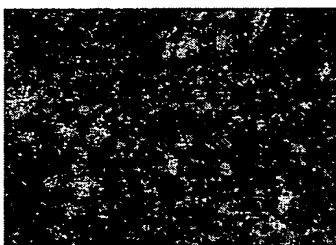
1 1 / 1 1



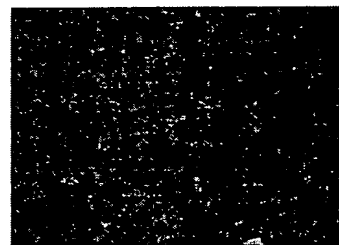
0A



5A



10A



Effects of applied current strength of electromagnetic vibration

Applied current frequency: 1,000 Hz, magnetic flux density: 10 T
Applied current density variable

F i g . 1 1